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## ABSTRACT

The principal investigators of this study were asked by a midwestern urban high school to assist in the analysis of data collected on students who had dropped out of high school. The data were to be reviewed to determine the cause of the high school's dropout rate. Variables investigated included attendance, grade point average, fourth grade marks, race, sex, grade of withdrawal, age, and retention. Also considered were the reported reasons for each student's dropping out. On analysis, researchers determined that the data were insufficient to determine a cause for dropping out. However, researchers worked with the school to use the data for creating and implementing an effective dropout prevention program. The information was also used to create a new procedure for collecting information from future dropouts. Researchers also determined that the formation of a school-university partnership could improve future research and professional development at the high school. The student withdrawal data sheet is attached. (Contains 18 references.) (Author/SLD)

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Running Head: EFFECTIVENESS OF HIGH SCHOOL DATA COLLECTION

Effectiveness of High School Data Collection in Determining  
Program Guidelines for Drop-out Prevention

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### Abstract

The principal investigators of this study were asked by a Mid-Western urban high school to assist in the analysis of data collected on students who had dropped out of high school. The data were to be reviewed to determine the cause of the school's high dropout rate. Variables investigated include attendance, grade point average, fourth grade marks, race, sex, grade of withdrawal, age, and retention were investigated. Also considered were the reported reasons for each student's dropping out. Upon analysis researchers determined that the data were insufficient to determine a cause for dropping out. However, researchers worked with the school to use the data for creating and implementing an effective drop out prevention program. The information was also used to create a new procedure for collecting information from future dropouts. Researchers also determined that the formation of a school-university partnership could improve future research and professional development at the high school.

Effectiveness of High School Data Collection in  
Determining Program Guidelines for Dropout Prevention

Problem Statement

Does society perceive students dropping out of high school to be a problem? If the answer to this obviously facetious question were no, then schools would not have to worry about who does not finish, or why they do not finish. However, the emphasis that state and accrediting agencies place on student completion rates clearly signals that society does judge graduation from high school to be a fundamental measure of a school's success. Indiana high school's that fail to meet the state's defined graduation guidelines greatly increase their risk of losing accreditation and autonomy. Graduation is clearly a high stakes issue for Hoosier high schools.

It is also clear that graduation rates are not just an Indiana fixation. Goals 2000 set a 90% graduation rate as one of the ten standards by which the effectiveness of U.S. schools should be judged (citation needed). Graduation is obviously an important goal for U.S. schools. The question becomes why there is such a focus and emphasis on graduation rates? In the early 1980's, beginning with "A Nation at Risk" (1983) there were a number of powerful education, political, and business leaders calling for a return to excellence in education. Almost all of them correlated the loss of economic vitality in the United States with a failing educational system. Anyon (1988) highlighted the basis for this belief when she described the one dominant theory concerning the emphasis on keeping students in school. She pointed out that:

An important social function of education is seen to be the transmission of dominant culture and ideologies that legitimate and thus help preserve arrangements of political and economic power, prestige, and production.

(p. 176)

Schools unfortunately do not have the luxury of debating the merits and weaknesses of the whether a particular theory adequately captures the beliefs and opinions that underlie society's concern with graduation. The role of the school in this issue is simple: it must either meet the standards or explain why it was unable to do so. And, perhaps more importantly, what the school intends to do in the future to improve its graduation rate. When faced with an unacceptable dropout rate, the school has no choice. It must engage

in a process of curriculum planning that is focused on the ways and means required to increase its graduation rates.

How they go about this planning process is the deciding factor as to what kinds of success might be expected. It would be outstanding if most schools recognized that this curriculum planning process should include an examination of current practices, utilization of research in creation of new curriculum, and effective implementation of new programs. Unfortunately, those are questions that do not get asked in the hectic period surrounding a forced review of student retention practices. Even when they do surface in the discussion, many schools fail to recognize that this process is not simply a review of the mechanics of courses and students. Lamm (1988) pointed out that:

Curriculum planning is an area where epistemological and psychological beliefs and opinions meet: Beliefs about the nature of knowledge and its purpose in the life of individuals and society on the one hand, and beliefs, conditions on which this process depends, on the other. (p. 149)

These are not just the beliefs of the educators involved in the process. To really understand and effectively redesign the curriculum, the process must include the beliefs and opinions of all stakeholders. This is especially true when, "the status of knowledge is that of a model of behavior to be imitated, where behavior is interpreted in the widest possible sense to include thought, feelings, imagination, actions, habits, etc." (Lamm, 1988, p. 151)

Given these potential problems, it seems legitimate to question what course of action should schools pursue in a situation of forced curricular planning? Is it possible for those closest to the problem to accurately and objectively examine and analyze it? Since it is unrealistic to expect schools to maintain a clear vision and consistent focus when faced with the immediate need to improve graduation rates, it seems logical that another solution be found.

One traditional solution is to bring in an outside consultant, usually from a university to either conduct or lead the school personnel through the curriculum revision process. The problem is that the schools then lose much of their voice and ability to influence the process. A better solution is for a partnership between the university and

the school to engage in this curriculum process, and a professional development school model seems to fit this need perfectly.

### Background and Method

This study grew out of just such a circumstance. The school in question, a medium sized urban high school had just been placed on academic probation by the state's accrediting agency. One of the primary reasons for the loss of accreditation was a 15% increase in drop-outs during the previous year. The principal investigators became involved due to their involvement in an exploration of the school's becoming a professional development school in the university's PDS network. They were on site and available when the need arose and the study became one of convenience rather than recognized need.

Because they were on hand, the principal investigators of this study were asked to assist in the analysis of data collected on students who had dropped out of high school. The data were to be used to assist the school in creating an implementing an effective dropout prevention program. Information including attendance, grade point average, fourth grade marks, race, sex, grade of withdrawal, age, and retention was collected on students who dropped out between 1996 and 1999. Also considered were the indicated reasons for each student's dropping out.

The term dropout was defined as any student in grades 7-12 who left school before graduation without transferring to another school or institution. Students considered dropouts included those students who were expelled and did not return when eligible, students who left school to enter the military, and those students who dropped out between semesters. Those students who served as the focus of this study were all 212 students who dropped out between 1996 and 1999.

Upon analysis, it was determined that the data available were insufficient to determine a cause for dropping out. However, the school moved forward with the creation of a dropout prevention program. Researchers also determined that a school-university partnership could improve the completion of future research and professional development at the high school.

The factors contributing to difficulty in determining a cause for the school's high drop out rate were two-fold. First, the data previously collected at the high school was incomplete. Many of the individual data sets were missing and could not be located. For

each of the three years of data collected student files were completely missing. For those students who dropped out during the 1996-1997 year, 13% of the records could not be located. 18% were missing for the 1997-1998 school year and only 3% for the 1998-1999 year. Many students during these three years also opted to take the graduate qualifying exam, or GQE. Students were given 6 months after dropping out to take and pass the GQE. If by the end of that six months the school did not receive notification of the student's passing score, he was declared a dropout. In 1996 twenty-seven students withdrew from school to take the GQE. Results have not been forwarded to the high school for any of these students. A similar problem was found for the 1997-1998 school year. Thirty-three students are listed as taking the GQE but no results have been forwarded to the high school. This limitation greatly inhibited data analysis.

Secondly, all information collected by the high school concerned only those students who had dropped out. No information was gathered on students who experienced circumstances similar to the dropouts but had completed high school. Therefore, factors determining dropout could not be clearly identified. For these reasons, information was gathered to complete the previous data set.

Roderick (1993) reported that the most likely reason given by students who were dropping out was that they were doing poorly in school and subsequently disliked school. She also points out that the chances of dropping out increase as the student encounters difficulties with school related issues. The strongest indicator of experiencing trouble with school is indicated by the students' repeating a grade. Bachman, Green, and Wirtanen (1971) reported that students who had been retained in grades prior to high school were 40 to 50% more likely to drop out. Students who were held back twice were 90% more likely to drop out than similar students who had not been retained. These results are seen in a number of studies and are one of the best indicators of students at risk for dropping out (Barro & Kolstad, 1987; Grissom & Shepard, 1989; Dryfoos, 1990; and Hess, 1991).

The data collected in this study closely mirror the results reported in these studies. During the 1996-1997 school year 83 students dropped out. 34% of these students were retained. 4% of these students were retained more than once. Similar results were observed in the 1997-1998 school year, during which 28% of the 90 students who

dropped out were retained. 4% of this group also were retained more than once. 33% of the students who dropped out during the 1998-1999 school year were also retained one time.

Roderick (1993) also found in the Fall River study that students' grades in the fourth grade are strongly associated with the likelihood of their dropping out. She found that "slightly over three-quarters of early dropouts and approximately 85% of youths who later graduated in the middle and top two-thirds of the graduating class could be correctly identified as dropouts or graduates simply on the basis of their fourth grade school characteristics." (pp. 79-81) Unfortunately, the data collected in this study cannot be said to emulate Roderick's findings. Due to missing records, only 63% of the total dropouts 4<sup>th</sup> grade marks were available for analysis. These students were also characterized by a normal distribution of grade point averages.

Roderick (1993) also reported that students from disadvantaged and poor families are more likely to experience difficulty with schooling. Factors influencing this difficulty include income, parental education, and family composition. These students face increased difficulty due to poor parental monitoring of their progress and lack of encouragement to complete their schooling. Students are more likely to have trouble with school and are thus at greater risk for dropping out if they come from single parent homes, low-income homes, or their parents did not graduate from high school (Bachman et al., 1971; Hill, 1979; Howell & Frese, 1982; and Barro & Kolstad, 1987).

A number of studies have also shown that students who live in urban areas, especially those who reside in the the school part of the city have higher rates of dropping out (Lerham, 1972; Borus & Carpenter, 1983; and Rumberger, 1983). However, as Rumberger (1983) reported, students from these areas are also more likely to come from homes that experience many of the factors detailed above. Thus, the geographical setting is not the determinant of failure, but a result of the other factors often linked to the geographic area.

Kronick & Hargis (1998) defined four leading causes of dropouts:

- 1) Truancy and excessive absences
- 2) Little participation in school activities
- 3) Low or failing grades in at least two courses

- 4) Difficulty communicating with teachers and other students
- 5) Exhibits little interest in classroom work (p. 165)

The data available in our study seem to reflect the research of Kronick & Hargis (1998). For example, Kronick & Hargis (1998) reported attendance to be the leading factor for dropping out. The data collected in this study show that 45% of the students who dropped out during the 1998-1999 school year had been absent 10 or more days and been tardy over 15 times prior to their dropping out. The other areas reported by Kronick & Hargis (1998) are reflected in the analysis of the reasons for each student's dropping out. Upon withdrawing from school students must indicate a reason for their dropping out. Over 57% of the total students who dropped out in this study reported disinterest in school as their reason for dropping out. This number however can be misleading. It is important to note that disinterest accounted for greater than half of the dropouts in 1996-1997, over half in 1997-1998 and almost 70% in 1998-1999.

#### Discussion

These results were used to detail immediate implications for a dropout prevention program at the school. Both long term and short term interventions were created.

##### Short Term

As pointed out in earlier, the current data concerning the dropout situation at the school were not complete enough. However, the data set did provide a solid framework from which to build the data collection procedures. Some of the information needed was found in past records. Collecting and analyzing these data was a time-consuming and difficult task. The school and the authors recognized that the remaining data would have to come from improved information gathering and record-keeping of current and future students.

The first issue was handled by a university graduate student with several school faculty and administrators to assist her in compiling the data. The information they collected was then analyzed to determine whether the school's drop-out problem did follow existing patterns demonstrated in the research. This provided the school with the information it needed to make timely, effective decisions about dropout interventions and programs.

In addition, new data collection procedures were recommended and implemented which addressed the need for more information. First a number of new questions were created and used during the exit interview required for each dropout. The questionnaire was designed to eliminate ambiguities and was built around the research already done on dropouts. (see appendix A) For example, in the past students could indicate "disinterest" in school as a reason for quitting. Now the students are asked for more details about this area. Their answers will provide a much better picture of what is happening and what can be done to prevent these problems in the future.

Secondly, the school is still considering ways in which to implement a better means of collecting information about incoming students, especially those that move into the district. As the review of research demonstrated, there are known risk factors that need to be discovered so that the correct interventions can be implemented for each student. There are currently several questionnaires available that could be used with incoming students, or the school might create its own questionnaire. In either case, it was recognized that the school be needed to be able to gauge the incoming students' attitudes about school and beliefs about their ability to graduate. This information will then assist the school as it targets services to those students who show that they are not emotionally or academically connected to their schooling. These services could take a number of forms such as tutoring, encouraging more extracurricular activities, or creating a school within a school for these students.

At the time of the study, the school was already in the planning process of creating a school within a school for fifteen freshman at risk of not graduating. Since one of the big problems reported by dropouts is a failure to connect to the school, this program was viewed as a means to provide a much more focused effort to make sure these students survive the transition to the high school. However, now the school has solid research to support the proposal where initially it was supported as a good idea that had been tried elsewhere. While simple in nature, the research suggests that this program has the potential to make the greatest difference in the lives of the students who are enrolled in it.

It was pointed out to the school that there were two cautions that had to be monitored when the program is implemented. First, since it will be limited to only 15

students, great care must be taken to ensure that each student in the program will be able to benefit from it. It was pointed out that while unfortunate, some students are so disconnected from school by the 9th grade that this type of program would not make a difference in their ability to complete school. Therefore, this program should be reserved for those who demonstrate the highest probability of being helped.

The other caution was that the existing literature on these programs continue to be utilized to ensure the success of the program. This requires staff development programs be created and implemented to assist faculty on the skills required to successfully implement new pedagogical methods and effective interdisciplinary teaming. A third intervention that proposed was a peer assistance program. Again the research review demonstrated that programs such as this have proven effective in other instances. These peer support programs have been found to be effective since they deal both with the students' academic difficulties and their inability to connect to the school.

#### Long Term

At the current time, three elementary schools seem to account for over 50% of the high school's dropouts over the last 7 years. These schools would be a natural place to begin early intervention programs. Especially in light of the research concerning the prediction ability based on 4th grade records. This was viewed as a long term solution since the 2000-01 upper elementary students will not enter high school for another four to six years. However, based on the research, this type of intervention holds the potential to be the most powerful one in addressing the drop-out problem.

Another issue that will have to be addressed over the long term is that during the last six years over 25% of the dropouts had no information about where they went to grade school. This seemed to indicate these students moved into the district after grade school and then dropped out. There did seem to be a pattern of students moving into the district for one last attempt to graduate. Until more data can be collected on this group little will be known about how many of them succeed as opposed to the number who quickly drop out. It was recommended that all students who move into the school during their high school years have information collected about their educational history. Those students whose record contains several factors associated with dropping out will need to have interventions put into place quickly.

Finally, two additional issues had be considered. First, since the research indicated that periods of transition between schools present a problem, it was suggested that some type of program be created to help students through the transition to 6th and 9th grade. The possibility of creating short summer programs to help identified at-risk students become more familiar with and connect to the school was considered. Also, the creation of advisory groups was discussed. These would allow for a trained teacher to be available daily to work with these identified students and ease them through their first year in this new setting.

The last area addressed dealt with increased connections to families. The research was very strong in demonstrating a connection between families and the students' ability to complete their education. The school, and the school corporation as a whole, have begun to institute programs designed to increase the parents' involvement. The need for additional programs and the emphasis on the inclusion of all parents was stressed. This is a long term solution that has demonstrated its ability to have a tremendous impact on student drop-out. It was emphasized that anything the school could do to encourage and support the students' families become a part of the team would help all students have a much more powerful and effective educational experience

### Conclusion

This study provided evidence for the ability of a professional development school project to effectively benefit both the university and the school. To the authors this situation seemed an ideal example of the Holmes Group (1995) stated policy of connecting schools of education to the schools. One of the five basic goals was to, "Create...working partnerships among university faculty, practicing teachers, and administrators that are designed around the systematic improvement of practice." (p.v)

Several of the principles behind this goal were to base the partnership on the "mutual exchange and benefit between research and practice...and the requirement that new ideas be subject to careful study and validation." (p. vi) This proved to be the place where the professional development school relationship under discussion with the university proved to be most useful. The university was able to tie research into practice. In addition, because the university was not immediately involved in the accreditation problem it was able to be more objective about possible solutions. While at times the

school wished for quicker, daily solutions, eventually the strength of a plan built solidly on research and data was recognized as being worth the effort and wait.

The PDS partnership also allowed the university an avenue through which to provide staff development seminars specific to the issues required by the school. The professional development partnership also utilized existing links with several PDS elementary schools within the district to begin discussions on what early identification and interventions might look like for students at greater risk of dropping out. And finally, a program in which identified at-risk students in the school were matched with Ball State education majors was initiated. These BSU students will serve as tutors and mentors for these students over the course of the BSU students' schooling.

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## Appendix A

## STUDENT WITHDRAWAL DATA SHEET

## SUPPLEMENTAL DATA REGARDING WITHDRAWING STUDENT

This form is to be used for students who are withdrawing from school.

Student Name \_\_\_\_\_

Student ID# \_\_\_\_\_ Date \_\_\_\_\_

Transferring to another school? YES NO

Name and location of the school \_\_\_\_\_

Continuing education toward a diploma? YES NO

Where? \_\_\_\_\_ Expected Completion Date \_\_\_\_\_

Primary reason for leaving school \_\_\_\_\_

The most positive event that happened to student while at school?

The most negative event that happened to student while at school?

The one adult the student felt they had a very good relationship with at school?

Parents reaction to decision to drop out?

Peers reaction to decision to drop out?

Was the student ever encouraged to participate in extracurricular activities? If so, when and by whom? Please list all extracurricular activities the student participated in.

The thing the student will miss about leaving school.

Highest level of schooling attained by Father? Mother?

## TO BE FILLED OUT BY THE OFFICE

Absences this year \_\_\_\_\_ last year \_\_\_\_\_ two years ago \_\_\_\_\_ three years ago \_\_\_\_\_

Number of days in session this year before departure \_\_\_\_\_

Number of referrals for discipline (non-tardy) \_\_\_\_\_

Number of referrals for tardies \_\_\_\_\_

Passed the Language GQE YES NO Number of times taken \_\_\_\_\_

Passed the Math GQE YES NO Number of times taken \_\_\_\_\_

Passed the 8<sup>th</sup> Grade ISTEP Math: YES NO Language: YES NOPassed the 6<sup>th</sup> Grade ISTEP Math: YES NO Language: YES NO

Students Reading Level from last assessment \_\_\_\_\_

Is student classified as Special Ed? YES NO

If yes, please specify need and level of services received.

Does the student work? YES NO Hours worked each week \_\_\_\_\_

Does the student receive free or reduced lunch? YES NO

Was the student retained a grade in past? If so, how many times and at what grade level(s)

Elementary school(s) student

attended \_\_\_\_\_

Did the student transfer in from another district? YES NO

If yes, please specify reasons for transfer.